

## REMARKS

With the entry of amendments to the claims proposed herein, claims 1, 5 and 7-16 will be pending in this patent application.

In this paper, Applicants are proposing to cancel claims 3 and 4, amend claims 1, 5, 7, 10 and 12-15. The amendments to the claims proposed herein are made without prejudice to Applicant's right to pursue claims to the invention of different and/or broader scope in a continuation application.

### ENTRY OF AMENDMENTS TO CLAIMS

As proposed in this paper, claims 3 and 4 would be canceled and the subject matter of canceled claims incorporated into claim 1. Amendments to others of the claims would provide agreement with amended claim 1 and would obviate the rejection based on 35 USC § 112, second paragraph, as discussed below. For reasons presented below, Applicants submit that all of the claims recite allowable subject matter and that, with the claims amended as proposed herein, this application would be in condition for allowance. Applicants therefore request that the amendments to the claims proposed herein be entered under the provisions of 37 CFR § 116 so that this application can be passed to issue. Alternatively, Applicants request that the amendments to the claims proposed herein be entered for purposes of appeal, if an appeal to the Board of Patent Appeals and Interferences should become necessary.

### SECTION 112, 2<sup>ND</sup> PARAGRAPH, REJECTION

Claims 4, 5, 7, 8, 10 and 12-16 stand rejected under 35 USC § 112, second paragraph, as being indefinite. Applicants traverse this rejection insofar as it might be deemed applicable to claims 1, 5, 7, 8, 10 and 12-16 as now presented.

As proposed herein, claim 4 would be canceled, and the subject matter recited in claim 4 would be incorporated into claim 1. In amended claim 1, "pivotable exit nozzles" and a "heated air stream" are clearly introduced. These expressions are consistently used in the dependent claims. In claim 7, "the region of the drying zone" has been changed to --a region of the drying zone--. Amended claims 10 and 14 now consistently recite "motor-driven fan."

In view of the amendments to the claims made herein and in view of the foregoing observations, Applicants submit that, as amended herein, claims 1, 5, 7, 8, 10 and 12-16 are now in full compliance with the requirements of 35 USC § 112, second paragraph. Applicants therefore request that this rejection be withdrawn.

#### PRIOR ART REJECTION I

Claims 1, 3 and 7-11 stand rejected under 35 USC § 103(a) as being unpatentable over DE 30 19 922 A1 (Pilz) in view of US 3598131 (Weihe). Applicants traverse this rejection.

As proposed in this paper, claim 3 would be canceled, and the attributes of the conveyor dishwasher that were recited in claim 3 (and claim 4) would be incorporated into claim 1.

In Applicant's disclosed and claimed dishwasher, the flow of the exhaust-air stream in a direction counter to the transporting direction of the wash ware in the dishwasher and the variable flow volume of the exhaust-air stream yields several advantages. The direction of flow is from warmer regions toward cooler regions, whereby the energy content of the moist air stream is applied advantageously to advancing wash ware and is dissipated. As a result, less cooling is required before the air is exhausted from the interior to the exterior of the dishwasher. The flow occurs from cleaner to less clean regions inside the dishwasher, so that wash ware that has been cleaned is not subjected to contamination from the exhaust-air stream. Also, the direction of the flow pulls hot moist air away from the inlet and outlet of the dishwasher, preventing the unwanted discharge of hot moist air from these locations. The variable flow volume of the exhaust-air stream enables the exhaust-air flow to be tailored to operating conditions in the dishwasher, so that, for example, a large exhaust-air flow, which would entail relatively large energy consumption, would not be employed when not needed. The significant advantages of Applicant's disclosed and claimed conveyor dishwasher cannot be realized in dishwashers constructed according to teachings in the prior art.

On page 8 of the Office Action, the Examiner characterizes Pilz as disclosing "a commercial dish washer system (title) that includes a washing zone (element 3 of figure 4); a rinsing zone (element 4 of figure 4); a drying zone (elements 5-6, 8 of figure 4); a blower (corresponding to the means to produce heated air) (element 11 in figure 4); air intake openings that can accommodate air streams at the inlet and exit; a suction-extraction location disposed upstream from the drying zone (elements 14, 151 of figure 4); and a motor-driven blower

communicating with the interior of the dishwasher at the suction-extraction location (element 14 of figure 4); wherein a heated air stream moves counter to the direction of the conveyor (air flow stream shown moving counter to the conveyor direction in the vicinity of elements 6-8 in figure 4)."

As described on page 9 of the English translation of Pilz provided with the outstanding Office Action, element 11 is an air jet blower that produces an air jet 10 directed at a downward angle toward the rinsing zone 4 and is used shield the air intake duct 8 from air that would otherwise be drawn in from upstream regions of the dishwasher. As disclosed earlier on page 9 of the translation, a blower for heated air is not employed, "because these devices require additional investments, have considerable energy requirements, adversely affect operating personnel with warm moist flowing air, and produce additional volumetric loading due to their waste heat." That is, the Pilz dishwasher does not have a blower that could be reasonably viewed as "corresponding to the means to produce heated air," as stated by the Examiner.

On page 9 of the Office Action, the Examiner characterizes Pilz as disclosing "a drying fan (element 11 of figure 4) being arranged in the drying zone. PILZ also discloses the nozzles of the drying fan being adjusted to preferred angles of 30° to 75° to optimize the heat recovery of the machine (lines 22-27 of page 2 of the machine translation). This angle adjustment functionality would require the nozzle to be pivotable."

According to page 9 of the English translation of Pilz, "Tests have shown that, depending on the machine type and operating mode, the air jet 10 must be directed inward toward the rinsing zone at an angle,  $\alpha$ , of 30° to 75°." That is, Pilz discloses the air jet 10 as being oriented downwardly at an angle  $\alpha$  of 30° to 75°. There is no disclosure whatsoever in Pilz that supports the Examiner's contention that the angle of the air jet blower 11, and the air jet 10, would be adjusted after being set to the desired angle.

On page 8 of the Office Action, the Examiner concedes that "PILZ does not appear to explicitly/expressly disclose the suction-extraction location being upstream from the washing and rinsing zones." The Examiner characterizes Weihe as disclosing "a steam collection system for dishwashing machines that includes a suction-extraction device (element 65 of figure 1) in the region of the dishwasher inlet (as shown in figure 1) which is upstream from the washing and rinsing areas." The Examiner contends, "At the time of the invention, it would have been *prima*

*facie* obvious to one having ordinary skill in the art to modify the dish washer system of PILZ to include the suction-extraction device location of WEIHE, since locating a suction-extraction device near the inlet would serve to reduce the humidity in the room, as taught by WEIHE (abstract), and since it has been held that the mere rearrangement of parts, which are known in the art, involves only routine skill in the art (see *In re Japikse*, 86 USPQ 70)."

As disclosed in the English translation of Pilz, the air intake duct 8, which receives a flow of air drawn in from air flow tunnel 7, is *shielded* by air jet 10 from upstream regions of the dishwasher. The Examiner's proposal for "locating a suction-extraction device near the inlet," i.e. in a region upstream of the air jet 10, would be *contrary* to the disclosure in Pilz. Such a modification, which would change the principle of operation of the Pilz dishwasher and render the Pilz dishwasher unsatisfactory for its intended purpose, could not be fairly characterized as a modification that would have been obvious. See the guidelines in MPEP 2143.01 V and VI.

As proposed in this paper, claim 1 would incorporate attributes the conveyor dishwasher that were recited in claims 3 and 4. With these amendments, claims 1 and 7-11 would recite further patentable departures from the disclosures in Pilz and Weihe.

In view of the foregoing observations and arguments, Applicants submit that no reasonable combination of the disclosures in Pilz and Weihe could properly serve as a basis for rejecting claims 1, 3 and 7-11 under 35 USC § 103. Applicants therefore request that this rejection be withdrawn.

#### PRIOR ART REJECTION II

Claims 3-5 and 12-13 stand rejected under 35 USC § 103(a) as being unpatentable over Pilz in view of Weihe and further in view of US 2005/0072019 A1 (Rago et al.). Applicants traverse this rejection.

As proposed in this paper, claims 3 and 4 would be canceled, and the attributes of the conveyor dishwasher that were recited in claims 3 4) would be incorporated into claim 1.

On page 10 of the Office Action, the Examiner states, "With regard to claim 3: PILZ discloses a drying fan (element 11 of figure 4) being arranged in the drying zone. PILZ also discloses the nozzles of the drying fan being adjusted to preferred angles of 30" to 75" to optimize the heat recovery of the machine (lines 22-27 of page 2 of the machine translation).

This angle adjustment functionality would require the nozzle to be pivotable, though PILZ does not appear to explicitly/expressly disclose the fan having pivotably designed nozzles."

The foregoing statement by the Examiner is incorrect in more one respect. As explained above, air jet blower 11 in the Pilz dishwasher produces an air jet 10 that shields the entrance to intake duct 8 from upstream regions of the dishwasher; element 11 cannot be fairly characterized as being a "drying fan." Also, as explained above, there is no disclosure in Pilz that can support the Examiner's contention that the air jet blower 11 and the air jet 10 are adjustable or pivotable.

The Examiner cites Rago et al. as disclosing "a drying fan than has pivoting exit nozzles (abstract, pivoting action best shown in figure 4)" and then contends, "At the time of the invention, it would have been *prima facie* obvious to one having ordinary skill in the art to modify the dish washer system of PILZ and WEIHE to include the drying fan with pivoting nozzles of RAGO ET AL., since one of skill in the art at the time of the invention would have known that the sweeping action created by pivoting nozzles would serve to enhance the drying speed and effectiveness."

Claims 3-5 and 12-13 depend from claim 1, and there are no teachings in Rago et al. that can remedy deficiencies in the Pilz and Weihe disclosures vis-à-vis the requirements of claim 1, as discussed above under the heading PRIOR ART REJECTION I.

There is no reason to expect that adding a pivoting action to the air jet blower 11 in Pilz would be efficacious. To the contrary, doing so would seem to impair the function of the shielding air jet 10. In addition, Applicants submit that one of ordinary skill in the conveyor dishwasher art would not look to the hand-held hair blower art for suggestions to be applied to a blower in a conveyor dishwasher. (The Examiner's argument on page 5 of the Office Action is irrelevant, since the air jet blower 11 in the Pilz dishwasher is not used for drying.)

In view of the foregoing observations and arguments, Applicants submit that no reasonable combination of the disclosures in Pilz, Weihe and Rago et al. could properly serve as a basis for rejecting claims 3-5 and 12-13 under 35 USC § 103. Applicants therefore request that this rejection be withdrawn.

### PRIOR ART REJECTION III

Claim 14 stands rejected under 35 USC § 103(a) as being unpatentable over Pilz in view of Weihe and further in view of SE 9503485 (Andersson). Applicants traverse this rejection.

On page 12 of the Office Action, the Examiner acknowledges that "PILZ does not appear to explicitly/expressly disclose the exhaust fan to be a speed-regulated fan." The Examiner cites Andersson for its disclosure of "a ventilation control system which utilizes a speed-regulated fan" and contends that it would have been obvious to modify the Pilz dishwasher to "include the speed-regulated fan of Andersson ."

Without acquiescing in the Examiner's proposal to modify the proposed Pilz-Weihe dishwasher in view of the disclosure in Andersson, Applicants note that claim 14 depends from claim 1, and there are no teachings in Andersson that can remedy deficiencies in the Pilz and Weihe disclosures vis-à-vis the requirements of claim 1, as discussed above under the heading PRIOR ART REJECTION I.

In view of the foregoing observations and arguments, Applicants submit that no reasonable combination of the disclosures in Pilz, Weihe and Andersson could properly serve as a basis for rejecting claim 14 under 35 USC § 103. Applicants therefore request that this rejection be withdrawn.

#### PRIOR ART REJECTION IV

Claims 15 and 16 stand rejected under 35 USC § 103(a) as being unpatentable over Pilz in view of Weihe, Rago et al., Andersson and further in view of US 3896827 (Robinson). Applicants traverse this rejection.

First, Applicants note that claims 15 and 16 depend directly and indirectly from claim 1. Without acquiescing in the Examiner's proposal to combine the teachings in Pilz, Weihe, Rago et al., Andersson and Robinson, Applicants note that there are no teachings in Rago et al., Andersson and Robinson that can remedy deficiencies in the Pilz and Weihe disclosures vis-à-vis the requirements of claim 1, as discussed above under the heading PRIOR ART REJECTION I.

On page 13 of the Office Action, the Examiner acknowledges that "PILZ, WEIHE, RAGO ET AL., and ANDERSSON do not appear to explicitly/expressly disclose a fan or air nozzles being controlled based on a sensed temperature, moisture content, or presence of wash ware. 74." The Examiner cites Robinson for its disclosure of "a dishwashing machine that senses the presence of dishes, water temperature, water pressure, and detergent concentration to control the washing process (abstract, lines 1-35 of column 2)" and contends, "At the time of the invention, it would have been *prima facie* obvious to one having ordinary skill in the art to

modify the dish washer system of PILZ, WEIHE, RAGO ET AL., and ANDERSSON to apply the control teachings of ROBINSON to a fan or air nozzle, since one of skill in the art at the time of the invention would have known that the use of automatic control, in response to sensor or user input, is commonly used in the dishwasher art to control washing, rinsing, sanitizing, and drying processes."

The control attributes disclosed by Robinson are not used to control the speed of a motor driving a fan and are not used to control the position of a movable nozzle that delivers heated air. In fact, there is not the slightest disclosure or suggestion in any of the references used by the Examiner in this rejection of regulating the capacity of a motor driven fan for exhaust-air in a conveyor dishwasher in dependence on sensed operating states of the dishwasher. Likewise, there is not the slightest disclosure or suggestion in any of these references of regulating the position of pivotable nozzles used for blowing heated air for drying in a conveyor dishwasher in dependence on sensed operating states of the dishwasher. Applicants submit that the only suggestion for employing these attributes in a conveyor dishwasher comes from the disclosure in this application and that the rejection implicitly and improperly relies on Applicant's own disclosure.

In view of the foregoing observations and arguments, Applicants submit that no reasonable combination of the disclosures in Pilz, Weihe, Rago et al., Andersson and Robinson could properly serve as a basis for rejecting claims 15 and 16 under 35 USC § 103. Applicants therefore request that this rejection be withdrawn.

#### CONCLUSION

In view of the proposed amendments, observations and arguments presented herein, Applicants respectfully request that the Examiner reconsider and withdraw the rejections stated in the outstanding Office Action and recognize all of the pending claims as allowable.

If unresolved matters remain in this application, the Examiner is invited to contact Frederick R. Handren, Reg. No. 32,874, at the telephone number provided below, so that these matters can be addressed and resolved expeditiously.

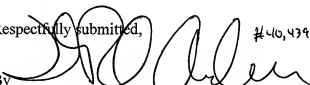
If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

Dated: June 16, 2011

Respectfully submitted,

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